

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
8 January 2004 (08.01.2004)

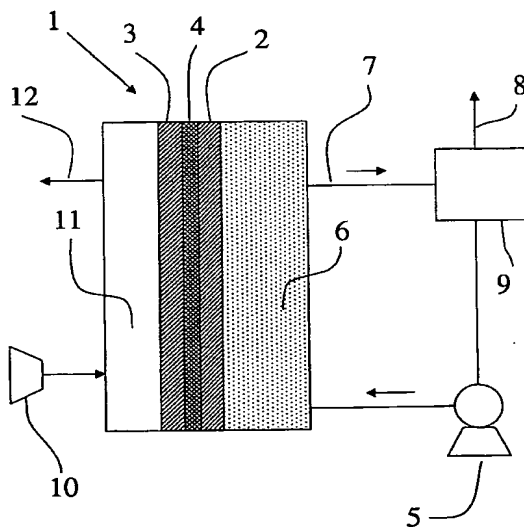
PCT

(10) International Publication Number  
**WO 2004/004053 A3**

- (51) International Patent Classification<sup>7</sup>: **H01M 8/10**
- (21) International Application Number:  
PCT/EP2003/006580
- (22) International Filing Date: 23 June 2003 (23.06.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
PCT/EP02/07166 28 June 2002 (28.06.2002) EP
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- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**  
— with international search report  
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report:  
25 March 2004

[Continued on next page]

(54) Title: FUEL CELL INCORPORATING A POLYMER ELECTROLYTE MEMBRANE GRAFTED BY IRRADIATION



(57) Abstract: Fuel cell comprising: (a) an anode; (b) a cathode; (c) a polymer electrolyte membrane placed between the anode and the cathode which comprises at least one polyolefin grafted with side chains containing proton conductive functional groups; wherein said fuel cell has: a value of cell resistance at 90 °C not higher than 0.30  $\Omega \text{ cm}^2$ , preferably comprised between 0.2  $\Omega \text{ cm}^2$  and 0.25  $\Omega \text{ cm}^2$ , more preferably comprised between 0.05  $\Omega \text{ cm}^2$  and 0.20  $\Omega \text{ cm}^2$ ; a value of cell resistance at 20 °C differing from the value of cell resistance at 90 °C of an amount not higher than 90%, preferably not higher than 70%, more preferably not higher than 50%, with respect to the value of cell resistance at 90 °C. Preferably, said fuel cell is a direct methanol fuel cell (DMFC).

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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/06580

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H01M8/10

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 242 123 B1 (ITO NAOKI ET AL) 5 June 2001 (2001-06-05) claims 1-31	1-52
A	US 5 679 482 A (EHRENBERG SCOTT G ET AL) 21 October 1997 (1997-10-21) claims 1-25	1-52
A	US 6 268 430 B1 (CHOI SUSAN KUHARCIK ET AL) 31 July 2001 (2001-07-31) claims 1-16	1-52
A	US 4 287 032 A (PELLEGRI ALBERTO) 1 September 1981 (1981-09-01) claims 1-17	1-52



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Patent family members are listed in annex.

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Date of the actual completion of the international search

5 February 2004

Date of mailing of the international search report

12/02/2004

Name and mailing address of the ISA

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International Application No

PCT/EP 03/06580

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